

CLAIMS

1) Sanding machine (1; 300) comprising:

- a support structure (2; 302) for supporting the piece to be processed and a frame (40) supporting
- at least a sanding unit (4) for processing said piece, said sanding unit comprising a winding element (8) cooperating with kinematic means (9) for moving it according to a closed ring configuration, characterized in that said closed ring configuration of said winding element (8) belongs to a plane ($\pi 1$) substantially parallel to the plane ($\pi 2$) defined by said support structure (2; 302) and in that said winding element (8) supports a plurality of abrasive elements (10) spaced from one another, disposed substantially perpendicular to the plane ($\pi 2$) of said support structure (2) and defining two parallel advance directions (18, 19), said abrasive elements (10) being inclined with respect to the advance directions (18, 19) of said winding element (8).

2) Sanding machine (1; 300) according to claim 1) characterized in that ~~said winding element (8) is constituted by a belt closed to form a ring and cooperating with~~ said kinematic means (9) ^{of the type comprising} at least two pulleys (11, 12) between which said ~~belt~~ ^{winding element (8)} is wound and motorization means (13) cooperating with at least one (12) of said pulleys (11, 12) to set it rotating.

3) Sanding machine (1; 300) according to claim 1) characterized in that each one of said abrasive elements (10) comprises a laminar abrasive element (14; 114; 214; 414) connected with said winding element (8) through a shaft (15; 415) substantially perpendicular to said plane ($\pi 2$) defined by said support structure (2).

4) Sanding machine (1; 300) according to claim 3) characterized in that said laminar abrasive element (14; 114; 214; 414) is removably connected with said shaft (15; 415) through holding means (23; 423).

5) Sanding machine (1; 300) according to claim 4) characterized in that said holding means (23) comprise at least one moving plate (24) suitable for being placed against the laminar abrasive element (14) through the operation of a pawl (25).

6) Sanding machine (1; 300) according to claim 4) characterized in that said holding means (423) comprise at least one moving plate (424) suitable for being placed against the laminar abrasive element (414) through the action of at least one spring (430) integral with said shaft (415).

~~7) Sanding machine (1; 300) according to claim 3) characterized~~

BEST AVAILABLE COPY

in that said laminar abrasive element (14; 114; 414) is inclined with respect to the advance direction (18, 19) of said winding element (8) to facilitate the removal of material from said piece (3).

5 ~~7 8~~ Sanding machine (1; 300) according to claim ~~7~~³ characterized in that said shaft (15) comprises articulation means (22) suitable for defining said inclined position of said laminar abrasive element (14; 114; 414).

10 ~~8 9~~ Sanding machine (1; 300) according to claim ~~8~~³ characterized in that it comprises guide means (26) combined with said frame (40), suitable for slidably receiving said shaft (15) for at least one section during its movement.

~~9 10~~ Sanding machine (1; 300) according to claim ~~9~~⁸ characterized in that said guide means (26) comprise at least one track integral with said frame (40) and are suitable for receiving rolling sliding means (27) combined with said shaft (15).

15 ~~10 11~~ Sanding machine (1; 300) according to claim 1) characterized in that said support structure (2) can be moved with respect to said sanding unit (4).

20 ~~11 12~~ Sanding machine (1) according to claim 1) characterized in that said support structure (2) comprises a conveyor belt (5) closed to form a ring between at least one pair of rotating cylinders (6,7).

~~12 13~~ Sanding machine (300) according to claim 1) characterized in that said support structure (302) comprises a plurality of rotating rollers (305) positioned side by side.

25 ~~13 14~~ Sanding machine (1; 300) according to claim 1) characterized in that said sanding unit can be moved with respect to said support structure.

~~14 15~~ Sanding machine (1; 300) according to claim 1) characterized in that it comprises suction means combined with said support structure and suitable for keeping said piece adherent to said support structure.

30 ~~15 16~~ Sanding machine (1; 300) according to claim 1) characterized in that it comprises one or more pressing elements (28) combined with said frame, suitable for being placed in contact with said piece (3) to keep it adherent to said support structure (2).